

DOCUMENT RESUME

ED 269 067

JC 860 211

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TITLE Articulation in Secondary and Postsecondary Occupational Education: Final Report.
INSTITUTION State Univ. of New York, Albany. Two Year Coll. Development Center.
SPONS AGENCY New York State Education Dept., Albany. Bureau of Grants Administration.
PUB DATE Sep 85
GRANT VEA-53-85-301-0370
NOTE 72p.; For related documents, see JC 860 156-157.
PUB TYPE Reports - Research/Technical (143) -- Tests/Evaluation Instruments (160)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS *Advanced Placement Programs; *Articulation (Education); *College School Cooperation; Community Colleges; Cooperative Programs; High Schools; Questionnaires; State Surveys; Two Year Colleges; *Vocational Education
IDENTIFIERS *New York

ABSTRACT

A study was conducted of formal occupational education articulation agreements between secondary and postsecondary institutions in New York State. Specifically, the study investigated the administration of agreements; the characteristics, goals, and length of time of agreements; benefits; problems and barriers; costs; and characteristics associated with successful efforts. The study involved a statewide survey of 59 two-year colleges and 52 secondary institutions, requesting information on existing or upcoming agreements; and on-site visits and consultations at ten two-year colleges and seven secondary schools. Study findings, based on responses from 45 two-year colleges and 37 secondary schools, included the following: (1) 60% of the two-year colleges and 76% of the secondary schools reported having one or more articulation agreements; (2) the respondents identified 73 distinct agreements; (3) program coordinators indicated that contact was made with their counterparts at the cooperating institution once a semester; (4) advanced placement was the most common feature of the articulation agreements; (5) the most frequently reported objectives at both the secondary and postsecondary levels dealt with advanced placement/credit and access to college programs; and (6) the career programs most frequently identified as part of an articulated agreement were nursing, data processing, drafting, electrical technology, and automotive technology. The study report includes a sample of the questionnaire packet and a schematic of reported agreements. (AYC)

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ARTICULATION IN SECONDARY AND POSTSECONDARY OCCUPATIONAL EDUCATION: Final Report

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September 1985

Two-Year College Development Center
State University of New York at Albany

ARTICULATION IN SECONDARY & POSTSECONDARY
OCCUPATIONAL EDUCATION PROGRAMS: A FINAL REPORT
(VEA 53-85-301-0370)

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Bureau of Grants Administration
State Education Department

September 1985

ACKNOWLEDGMENTS

The research study described within this report was supported through funding from the Bureau of Grants Administration, New York State Education Department. The effort was possible through the cooperation of two-year colleges and secondary personnel interested in and working with articulation of occupational programs between the two levels. We wish to express our appreciation to all secondary and postsecondary administrators, faculty and staff who provided information through the state-wide survey. We especially want to acknowledge the cooperation and support of administrators and staff members at the institutions which served as interview sites: Adirondack Community College, Charles Gotsch; Buffalo Public Schools, Leonard Neureuther; Canton Ag & Tech College, David Chamberlain; St. Lawrence-Lewis BOCES, John Sutter and Joyce Sutter; Niagara County Community College, Katherine Peuquet; Cayuga County Community College, Thomas Steenberg and Thomas Paczkonski; Cortland-Madison BOCES, Michael Bay-Borelli; Dutchess Community College, Edna Gardenier; Erie Community College/City, Neil O'Connor and Sylvia Caceres; Genesee Community College/Genesee Wyoming BOCES, Gena Proulx, Thomas Nelson and Russell Glowacki; Fulton-Montgomery Community College, Robert Kusek; LaGuardia Community College, Robert O'Pray; Morrisville Ag & Tech College, Thomas Leamer; New York City Board of Education, New York City Secondary Schools, Myrna Wohlberg; Onondaga-Madison BOCES, Seven Grossman; Saratoga-Warren BOCES, James Arnold; Tompkins-Cortland Community College, Susan Mason.

A share of any credit rightfully belongs to those who have contributed to the activity, but project staff accept full responsibility for any perceived shortcomings.

Organization of Report

This document consists of five major sections plus appendices. Part I serves to set a perspective for the study. Part II describes procedures used to implement the project and collect data. Part III is a summary of data findings organized by major research topics. Part IV is a discussion of outcomes and implications to priority issues. Part V provides highlights and conclusions based on data and information. Greater detail for selected topics is provided by appendices.

Parts IV and V are recommended to readers who seek a summary of research outcomes.

Funding for this project was provided under
PL-94-482 Title II, Vocational Education, Subpart 3
Education Amendments of 1976
Administered by the
New York State Education Department

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Articulation in Secondary & Postsecondary
Occupational Education Programs: A Final Report
(VEA 53-85-301-0370)

Part I - Introduction

The priority for articulation between secondary and postsecondary educational agencies in New York State was established in 1974 by the Board of Regents in position paper #21 entitled, "The Articulation of Secondary and Postsecondary Education." In that paper the problems and benefits of articulation agreements were outlined.

In 1984, the priority for articulation was reaffirmed in the Regents Statewide Plan for the Development of Postsecondary Education in New York State. In Volume 2, "Critical Issues in Postsecondary Education in New York State," the concept of articulation was addressed as a potential strategy to make more effective use of limited resources. The New York State Plan for the Administration of Occupational Education under the Carl D. Perkins Act of 1984 for Fiscal Years 1986-1988 also describes articulation agreements as an effective mechanism for efficient use of resources.

The priority for articulated efforts is also underscored by a number of recommendations growing from futuring efforts especially in trade and technical program areas. The strategy of interinstitutional cooperation increases effectiveness by increasing efficiency in the use of educational resources, by attracting additional resources, by maintaining/expanding access to a diversity of educational services and by developing innovative programs. In turns, these are contributors to excellence in postsecondary education.

The literature in general is replete with discussions about articulation. Some focus on potential outcomes: smoother transition for students from secondary to postsecondary, improved academic preparation of incoming two-year college students, and reduction of content overlap between college

and high school curricula among others. Other researchers describe recommended procedures: a planning strategy, communication links, clarification of goals, expansion of interaction patterns, development of formal agreements, determining curricula compatibility, marketing the alternative, and follow-up (Parsons, 1980; Dallas, 1982; Moore, 1984; Bushnell, 1979).

A concern for definition is also found in the literature. In 1978, Ernst offered that articulation was systematic coordination between one educational institution and other institutions/agencies designed to ensure efficient and effective movement of students among these institutions and agencies while guaranteeing students continuous advancement in learning. In 1979, the AVA-AACJC jointly-sponsored national study defined articulation as a planned process linking two or more educational systems within a community to help students make the transition from one level of instruction to another, or between programs and institutions, without experiencing details or loss of credit.

Within this study, articulation can be broadly defined as planned inter-institutional linkage within a region that results in more career program alternatives for students and increased efficiency in the use of available resources. Both definition and purpose reflect the priority to articulation in New York State and serve as focus for the state-of-the-art in articulation between secondary and postsecondary institutions. The results should aid those institutions undertaking articulation to profit from the experience, success, and concern of their colleagues at other secondary and postsecondary institutions in New York State.

Part II - Methodology and Procedures

This research project, focusing on articulation between secondary and postsecondary institutions, was undertaken with the major objectives of:

- to develop a state-of-the-art summary of formal articulation agreements which exist in occupational programs between secondary and postsecondary institutions in New York State
- to identify extent, focus and factors comprising such agreements
- to determine characteristics crucial to successful agreements
- to identify constraints or barriers to articulated agreements
- to determine costs related to establishing and operation of selected types of agreements
- to identify benefits derived from selected types of agreements, and
- to determine the effectiveness of selected agreements

Procedures to collect data relative to objectives consisted primarily of two major strategies. The first, a statewide survey of two-year colleges and secondary institutions, consisted of a questionnaire packet. Each packet contained three forms: Administrator Form--designed to collect broad comprehensive data and information from the perspective of an administrator; Coordinator Form--designed to collect specific information about individual agreements; Alternate Questionnaire--designed to collect brief descriptive information about upcoming or recently concluded agreements. The packet was sent to the academic officer at each institution with a request that Coordinator Forms (multiple copies) be distributed to as many staff members as currently appropriate. Similar instructions were provided for the Alternate Form in order that the staff member most closely related to the upcoming or recently concluded agreement would provide information (Appendix A).

Survey results were used in the identification of a representative sample of secondary and postsecondary institutions. An attempt was made to select institutions comprising the sample provided additional data and information through on-site interviews.

A total of 45 two-year colleges and 37 secondary schools responded to the request for data. On-site interviews and consultations were held at 10 two-year colleges and 7 secondary institutions. After tabulation, data were analyzed through percentage frequencies, frequencies, graphics, and summary profiles.

Part III - Summary of Data Results

A. Data Source

During the fall semester 1984, the questionnaire packet was distributed statewide to 59 two-year colleges and 52 secondary institutions. Two-year colleges included SUNY community colleges, CUNY community colleges, SUNY agricultural and technical colleges, and selected independent colleges; secondary institutions included BOCES centers and selected city high schools--specifically vocational-technical centers. The overall response rate was 75%. The number and frequency of responses are summarized as follows:

<u>Type of Institution</u>	<u>Number Contacted</u>	<u>Number of Responses Received</u>
SUNY Community Colleges	34	26 (76.5%)*
CUNY Community Colleges	8	6 (75.0%)*
SUNY Ag & Tech Colleges	6	5 (83.3%)*
Independent/Private Colleges	<u>11</u>	<u>8 (72.7%)*</u>
Postsecondary Total	59	45 (76.2%)*
BOCES	44	30 (68.2%)*
City High Schools/Centers	<u>8</u>	<u>7 (87.5%)*</u>
Secondary Total	52	37 (71.2%)* ¹

*Percentage Frequency of Responses Received

¹Does not include 5 high schools that responded as part of an articulation agreement with a two-year college.

Sixty percent (60%) of the responding postsecondary institutions reported one or more agreements compared to 76% of responding secondary schools. The majority of responding institutions at either level reported existence of articulated agreements with institution(s) at the other level.

The status and source of reported agreements is illustrated as follows:

<u>Postsecondary/ Secondary Combined</u>	<u>Distinct Reported Agreements</u>	<u>Mutually Reported</u>	<u>Reported by Usable Questionnaires</u>	<u>Others Reported by Alternate Forms, Letters & Reports</u>
Past	5		2	5
Present	60		83	19
Future	<u>8</u>		<u>4</u>	<u>7</u>
TOTAL	73	16	89	31
<u>Secondary</u>				
Past			1	2
Present			49	7
Future			<u>3</u>	<u>3</u>
TOTAL	37		53	12
<u>Postsecondary</u>				
Past			1	3
Present			34	12
Future			<u>1</u>	<u>4</u>
TOTAL	20		36	19

Useable questionnaires were received for 89 agreements. Sixteen of these agreements were mutually reported by both partners resulting in a data base of 73 distinct articulation agreements. During survey/interview data collection work, reference information on 31 agreements was received, some of which were duplicates of those reported by questionnaire, some for past or future agreements. Because of missing data these were unable to be integrated with much of the data analyses.

Secondary only reported 37 (50.7%) of the agreements. Postsecondary only reported 20 (27.4%) of the agreements. The geographic distribution of respondents and reporting agencies of all reported agreements are plotted on the map on the following page. (A schematic key that specifies the reporting agencies and the partners within each comprise Appendix B.)

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The majority of agreements reported were operational--60 or 82.2%. Eight (10.9%) of the reported agreements were planned for implementation in the coming year. Five (6.9%) reported agreements had been operational within the past five years.

Based on survey outcomes, a sample of institutions was selected for interviewing in order to pursue concerns and issues that are better addressed in a discussion format. The interviews, held during the spring of 1985, are categorized by institutional type as follows:

	<u>Number of Interviews</u>	<u>Percent of Total</u>
SUNY Community Colleges	7	41.1%
CUNY Community Colleges	1	5.9%
Agricultural/Technical	2	11.8%
BOCES	5	29.4%
City Schools	<u>2</u>	<u>11.8%</u>
TOTAL	17	100.0%

B. Definition

Data and information were requested in terms of "formal operational agreements" with no attempt at definition. Responses suggested strongly that formal agreements are interpreted as advanced credit or advanced placement--strategies that linked credit to articulation. This interpretation was underscored during the interview process when discussions pointed to other linkages as "informal."

C. Administration of Agreements

The survey sought to determine which staff members were primarily responsible for planning and coordination of articulated agreements. The responses are summarized in Figure 1.

Figure 1

Title of Staff Member Responsible for Planning*

<u>Postsecondary Administrators</u>	<u>Secondary Administrators</u>
39.1% Division Heads/Department Chairs	35.2% Director Vocational Education/ BOCES
34.7% Dean/Vice President/Associate Dean of Academic Affairs/ Instruction	17.6% Assistant Superintendent
26.1% Professor/Instructor	17.6% Continuing Education Director/ Program Supervisor
17.4% Director of Continuing Education/ Institutional Research/Occupa- tional Education	11.9% Assistant Director
8.8% No response	5.9% Principal
	5.9% Teacher/Guidance Counselor/ Placement Coordinator
	5.9% No response
(N=23)**	(N=17)**

*Seven of the 23 respondents indicated a joint responsibility between two individuals. The most frequent (57.1%) combination was between Division Head and Professor.

**Due to multiple responses percentages do not total 100%.

Over one-third of responding postsecondary administrators indicated that Division Heads, Department Chairs (39.1%) and/or Deans/Vice Presidents/Associate Dean of Academic/Instruction (34.7%) were primarily responsible for initiating and planning articulated agreements. About 30% indicated joint responsibility for planning; most frequently identified combination was an individual professor and his/her department head. Over 35% of secondary administrators indicated that the Director of Vocational Education/BOCES was primarily responsible for the planning phase. To a lesser extent other administrators played a role--Assistant Superintendent, Director of Continuing Education, Program Supervisor, Assistant Director.

In response to a question for the staff title primarily responsible for coordination of in-place agreements, the following positions were identified:

Figure 2

Title of Staff Member Responsible for Coordination

<u>Postsecondary Administrators</u>	<u>Secondary Administrators</u>
43.5% Division Heads/Department Chairs/Associate Division Dean	35.2% Director BOCES/Vocational Education
26.1% Professor/Instructor	23.6% Assistant Superintendent
21.7% Dean/Vice President/ Associate Dean of Academic Affairs	17.6% Director Continuing Education/ Curriculum Program Coordinator
13.0% Director of Continuing Education/Occupational Education/Program Coordinator	5.9% Teacher, Guidance Counselor/ Placement Coordinator
4.3% Dean of Students	5.9% Principal
21.7% No response	5.9% Assistant Director
	5.9% No response
(N=23)*	(N=17)*

*Due to multiple responses percentages do not total 100%.

At the secondary level, the Director assumed primary responsibility for coordination (35.2%) as well as planning, followed closely by Assistant Superintendent (23.6%). In contrast, at the postsecondary level responsibility for coordination fell most often to Division Heads, Department Chairs or Associate Division Deans (43.5%). Individual professors or instructors (26.1%) were also often responsible for coordination of an ongoing agreement. Dean/Vice President/Associate Dean of Academic Affairs (21.7%) were less often responsible for coordination than for initiation and planning of an actual agreement.

Because of concern to the cooperative nature of articulated agreements one question was related to the frequency of communication between counterparts at each level. The responses are summarized in Figure 3:

Figure 3

Frequency of Communication with Counterpart at Cooperating Institution

<u>Coordinator</u> <u>Postsecondary</u> (N=36)	<u>Administrators</u> <u>Postsecondary</u> (N=23)		<u>Administrators</u> <u>Secondary</u> (N=17)	<u>Coordinators</u> <u>Secondary</u> (N=53)
19.4%	21.7%	once a semester	5.9%	11.3%
11.1%	4.3%	twice a semester	17.6%	5.6%
2.8%	8.7%	three times a semester	5.9%	5.6%
8.3%	8.7%	monthly	5.9%	3.7%
2.8%	8.7%	several times a month	5.9%	13.5%
19.4%	13.1%	no response	-	39.6%
36.2%	34.8%	other:	58.8%	20.7%
46.2%	50.0%	as needed/varies	50.0%	30.7%
38.5%	25.0%	annually	40.0%	30.7%
-	12.5%	seldom	10.0%	23.0%
15.3%	12.5%	too soon to tell	-	5.8%

Coordinators at both levels and postsecondary administrators most frequently indicated contact was made once a semester. Secondary administrators, identified twice a semester contact most frequently. These data suggest that the number of contacts vary with position and relationship of individual staff member to a specific articulated agreement. The demands of the various agreements are also in proportion to the number of contacts made. The important point is that representatives of both levels do maintain some systematic communication in order to increase efficiency and effectiveness of the articulated alternative.

D. Description of Agreements

Several items sought to obtain a description of agreements, and were geared to a variety of descriptive concepts as shown in the following sections.

Primary Descriptors. Coordinators selected the phrases that best described their agreements. As shown in Figure 4, a majority of coordinators at both levels selected advanced placement. Over 50% of secondary coordinators also selected curricular as another accurate descriptor.

Figure 4

Primary Agreement Descriptors*

<u>Postsecondary Coordinators</u>		<u>Secondary Coordinators</u>
61.1%	Advanced Placement	86.8%
47.2%	Curricular	52.8%
13.9%	Joint Planning	18.9%
13.9%	Communications/Exchange	33.9%
5.6%	Faculty Sharing	9.4%
13.9%	Equipment/Facilities Sharing	7.5%
2.8%	Joint Grant-Seeking	1.9%
8.3%	Other:	-
	- Guaranteed Admissions	
	- Early Admissions	

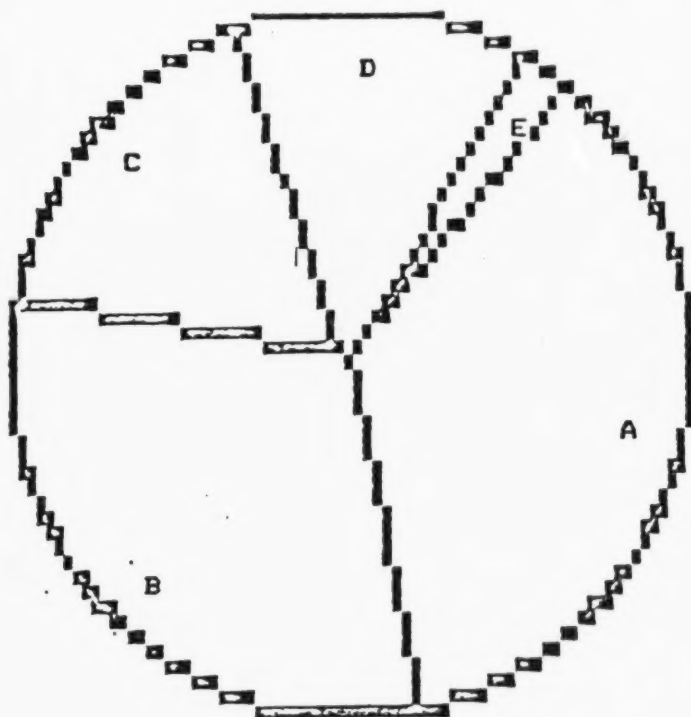
N=36

N=53

*Due to multiple responses, percentages do not total 100%.

Length of Time. The length of time that reported agreements had been operational was important to anticipated outcomes, and in determining success. As shown in Figure 5, the majority of agreements at the postsecondary level were operational for up to two years (66.7%) while 30.6% had been operational for three or more years. This compares favorably to the secondary level: 45.3% have been operational for up to two years, 39.6% for three or more years. A differential exists in the five or more years category where a substantially larger percentage have been operational at the secondary level, 30.2% compared to 13.9%.

Figure 5

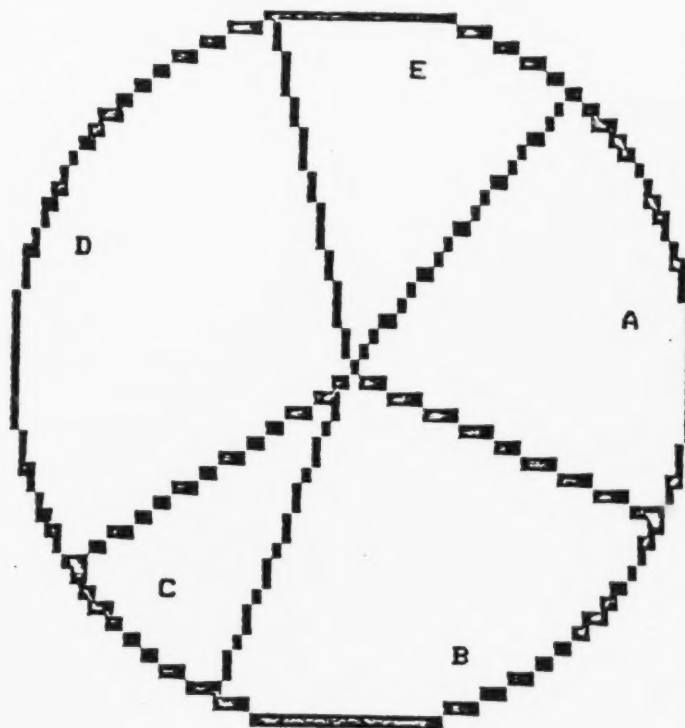


Articulation: Time Period
Operable--Postsecondary
Agreements

Label	%
A=One year	36.10
B=Two years	30.60
C=Three/four years	16.70
D=Five or more years	13.90
E=No response	2.70

Articulation: Time Period
Operable--Secondary
Agreements

Label	%
A=One year	20.80
B=Two years	24.50
C=Three/four years	9.40
D=Five or more years	30.20
E=No response	15.10



Major Goals/Objectives. Coordinators were asked to identify the major goal or objective of their agreements.

Figure 6

Major Goals/Objectives of Agreements*

<u>Postsecondary Coordinators</u>		<u>Secondary Coordinators</u>
25.0%	To award advanced placement/credit	50.9%
25.0%	To facilitate access to college programs/ increase enrollment	25.7%
13.9%	To motivate students/build on their experience	13.2%
16.7%	To increase options for BOCES graduates	-
8.3%	To reduce duplication/repetition of course content	7.5%
5.6%	Keep costs down for students	5.7%
5.6%	More efficient use of facilities (evening, etc.)	1.9%
5.6%	Guaranteed/early admissions	-
2.8%	To develop a model program	3.7%
2.8%	Increase minority access	1.9%
-	Provide industry with skilled technicians	3.7%
2.8%	Career exploration/use of college faculty to counsel secondary students	-
(N=36)		(N=53)

*Due to multiple responses percentages do not total 100%.

As illustrated, the most frequent objectives reported at the postsecondary level dealt with advanced placement/credit and access to college programs. Secondary level respondents, by far, identified advanced placement/credit most frequently followed by student motivation and challenge goals. A similarity of intent between advanced placement/credit and facilitating access may be considered as variations to one goal. Using this perspective, the major intent of all agreements at either level deals with the concept of easing and promoting entry into college programs.

The career programs most frequently reported as part of an articulated

agreement were nursing, data processing, drafting, electrical technology and automotive technology. Eleven postsecondary and 18 secondary respondents reported multiple programs within one agreement; that is, one agreement that includes several career programs.

A period of time becomes necessary for increasing awareness through marketing in order that students have an opportunity to assess the applicability of articulation to their own personal career goals. The number of students participating ranged from 1 through 220. Using these figures, a statistical average per agreement stands at 36. Two agreements did not directly involve students but were facility-sharing.

Articulation--New York City. As a result of the interview with the Chief Administrator in Career and Occupational Education in New York City, it was learned that numerous linkages between high schools and postsecondary institutions exist. The primary purpose of these linkages is to improve instructional programs and to increase the holding power of education. The following profile summarizes existing linkages with two-year colleges:

<u>Bureau</u>	<u># of H. S. Participating</u>	<u>Program</u>	<u>Colleges</u>
Home Economics	7	Child Care	Borough of Manhattan Community College
	15	Food Service/Hotel Hospitality/Entrepreneurship	LaGuardia, N.Y.C. Technical College
	9	Fashion Technology/Entrepreneurship	School for Visual Arts Fashion Inst. of Tech.
	5	Entrepreneurship	Borough of Manhattan Community College
Agriculture	1	Marine Technology	Kingsborough College
	6	Ornamental Horticulture	Bronx Community College
Health	2	Medical Assisting	New York City Technical College

Business	8	Secretarial	Kingsborough, LaGuardia
	14	Accountant	Queensborough, LaGuardia
	1	Word Processing	Kingsborough
	1	Travel and Tourism	Kingsborough
	2	Marketing	New York City Technical College, LaGuardia
Work Experience Training Unit	Various	Transition of Cooperative Education students from High School to College	LaGuardia

On the recommendation of the Chief Administrator's office, a modified questionnaire was mailed to each Bureau Chief for the purpose of acquiring more detailed information regarding each linkage. A response rate of 57.1% shared information about the linkages with two-year colleges, particularly in business and home economic program areas. The information has generally been incorporated within this report. Selected specifics indicate that the majority of reported linkages have been operational for approximately five years or more. Demographic details of some agreements were, in some instances, provided by staff from the two-year college partner. A shared perspective indicates that agreements often stem from informal discussions between department chairpersons at the two levels. Because of informality, detailed information was not available for several linkages.

E. Benefits of Agreements

Two major categories of benefits derived from implementation of articulation agreements are a) institutional, and more importantly from the educator's viewpoint, b) student-centered. More student than institutional benefits were identified as shown in Figure 7. The most frequently identified benefit dealt with the acquisition of college credit or course waivers. Less time needed for degree requirements and incentive to attend college were also noted frequently. The postsecondary level identified recruitment or increased enrollment to a greater degree than the secondary level. The secondary level found a primary benefit to the institution as publicity and improved image.

Figure 7

Major Student Benefits

<u>Postsecondary</u>		<u>Secondary</u>
***	College credit	****
**	Less time for degree requirements	*
*	Advanced standing/course waiver	***
*	Motivation/incentive	**
*	Exposure to college/faculty; career exploration	*
*	Academic course options for technical students	*
	Cost saving	*

Major Institutional Benefits

<u>Postsecondary</u>		<u>Secondary</u>
****	Recruitment/increased enrollment	**
*	Wider publicity/improved image	**
*	Student incentive/motivation	*
*	Fulfillment of community service obligations/recognition in community	
*	Student familiarity with college/careers	*

-
- * <10% of respondents
 - ** 10-19% of respondents
 - *** 20-29% of respondents
 - **** >30% of respondents

F. Problems and Barriers

Respondents were asked to identify barriers or constraints that were encountered in setting up an articulated agreement. Forty-five percent (45%) of the postsecondary respondents indicated none or minimal barriers/problems compared to 26% secondary indicating no problems. Approximately

43% of secondary respondents and 8% postsecondary respondents did not provide information to this item. Of those issues identified two or more postsecondary respondents indicated scheduling meetings and classes, distance/transportation involved, maintaining communication between participating institutions, philosophical differences between the two levels, compatibility of curricula, and delays in state-level funding. Similar types of problems were identified by secondary respondents including scheduling of meetings/classes and curriculum compatibility. Faculty approval and qualifications were an additional concern of postsecondary respondents.

None or minimal problems were evident during implementation (post-secondary 37%; secondary 29%). Some 30% postsecondary and 44% secondary respondents failed to provide data. Of those that did, problems identified by at least two postsecondary respondents included: proper evaluation of previous learning by BOCES graduates; differences in operating calendars; scheduling of classes; student motivation; time demands on faculty; retention of students in articulated track; and completion/cooperation in admissions requirements. Two or more secondary respondents identified informing/attracting students; orientation of staff and teachers to the alternative; preparedness of students coming into the track; retaining teachers; and transferability of credit.

G. Articulation Agreement Costs

Consideration of articulated agreements, like any program change, brings a concern of cost: Is the activity cost-efficient? Do outcomes warrant investment? In the attempt to determine realistic cost estimates from experience with articulation agreements, several items were geared to agreement expenditures.

Administrators were asked whether or not indirect costs were a

consideration before entering an articulated agreement. The majority response from both levels was "no." Those responding affirmatively identified concerns in relation to time needed by faculty, administration and clerical/support staff in setting up and planning the agreement.

Figure 8 sums the responses:

Figure 8

Are indirect costs a consideration before entering an articulated agreement?

<u>Postsecondary Administrators</u>		<u>Secondary Administrators</u>
21.8%	Yes	11.8%
60.9%	No	64.6%
8.7%	In some cases	11.8%
4.3%	Uncertain	-
4.3%	No response	11.8%
N=23		N=17

Since time was the major anticipated indirect cost item, administrators were asked for a dollar estimate of those costs:

Figure 9

What are estimated indirect costs of articulated agreements?

<u>Postsecondary</u>			<u>Secondary</u>	
<u>Average</u>	<u>Range</u>		<u>Average</u>	<u>Range</u>
\$1602	\$30-\$25,000	Administrator time	\$796	\$150-\$2000
\$505	\$40-\$2400	Faculty time	\$433	\$75-\$2000
\$1292	\$10-\$10,000	Support time	\$300	\$100-\$500

As shown in Figure 9, the range of estimates is broad, and tend to reflect the priority to articulation at the various institutions. The higher dollars for administrator or support time at postsecondary institutions suggests the presence of a director, coordinator or staff member with specified responsibility for articulation. A coordinator position was

not observed at secondary levels but tasks often were a designated responsibility of certain administrators.

Administrators were also asked whether or not additional direct costs became a consideration before entering an articulated agreement. -

Figure 10

Are additional direct costs a consideration before entering an articulated agreement?

<u>Postsecondary Administrators</u>		<u>Secondary Administrators</u>
43.5%	Yes	29.4%
30.5%	No	52.9%
17.4%	In some cases	5.9%
4.3%	Uncertain	-
4.3%	No response	11.8%
N=23		N=17

As shown in Figure 10, direct costs became a consideration to a greater extent than indirect. Postsecondary administrators (43.5%) found direct cost a consideration more than secondary administrators (29.4%). The areas mentioned most frequently included cost of telephone, equipment, publications, mileage and again faculty time needed for successful articulated programs.

The same question was asked of agreement coordinators or those working directly with implementation of agreements:

Figure 11

Are there additional direct costs of articulated agreements?

<u>Postsecondary Coordinators</u>		<u>Secondary Coordinators</u>
13.9%	Yes	1.8%
52.8%	No	39.6%
-	Don't know	20.8%
33.3%	No response	37.8%
(N=36)		(N=53)

The majority of those working directly with the agreements at the post-secondary level (52.8%) indicated no direct costs, 60.4% of secondary respondents indicated none or did not know. The direct costs that were identified included rental expenses, equipment, publications, expendable supplies, and busing.

The other side of a cost question is whether or not articulated agreements resulted in observable dollar savings. In response to a request for estimated dollar savings, a majority did not provide information. This may suggest that a reasonable estimate was not readily known or perhaps inappropriate in terms of the articulation concept. Of those that did respond, none or minimal were indicated most frequently.

Figure 12

What are estimated dollar savings of articulated agreements?

<u>Postsecondary</u>		<u>Secondary</u>
25.0%	None	9.4%
11.1%	Minimal	1.9%
-	\$100 - \$400 per student	11.3%
2.8%	Over \$400 per student	3.8%
61.1%	No response	73.6%

H. Assessment of Agreements

Relative to success and outcomes, administrators were asked about the existence of assessment and feedback procedures:

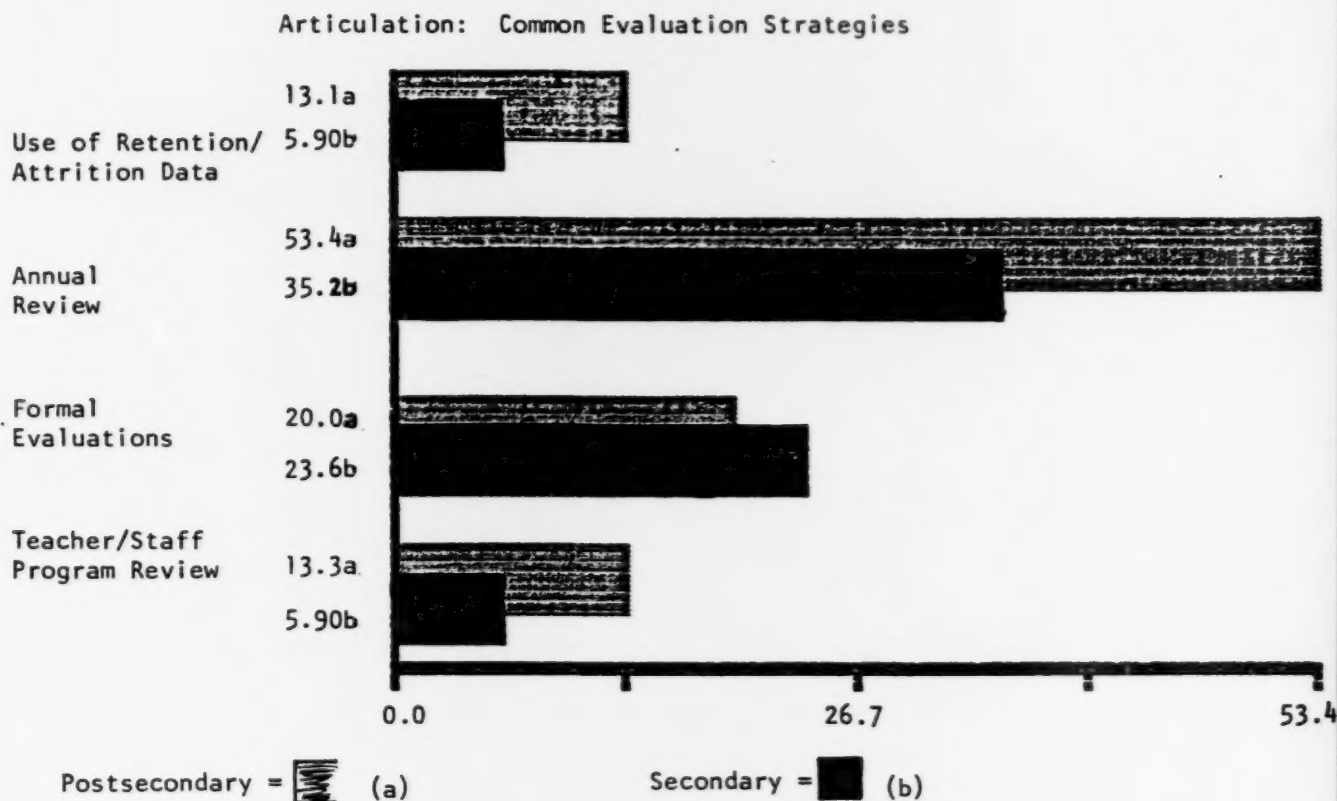
Figure 13

Are mechanisms in place for assessment and revision?

<u>Postsecondary Administrators</u>		<u>Secondary Administrators</u>
65.2%	Yes	76.5%
4.3%	No	17.6%
13.1%	Not really	-
17.4%	No response	5.9%
N=23		N=17

A majority at both levels indicated that some mechanisms were in place. The most frequently identified are shown in Figure 14.

Figure 14



The most frequently identified assessment strategy at both levels was an annual review. It is assumed that the review was administrative with a major concern for logistics. Formal evaluation, noted by approximately 20% at each level, included pre and post-testing, follow-up studies to students and community and employer assessments. In some cases, the use of retention/attrition data was part of formal evaluation, in others these data stood alone. A similar phenomenon exists for teacher/staff program review. Its importance leads some institutions to isolate the teacher/staff review as a separate strategy.

To obtain a sense of how effective existing agreements were viewed locally, staff working closely with articulated agreements were asked to rate the success of their own programs on a seven point-scale (1 = "not very effective," 7 = "very effective"). The summary of self-assessments are profiled in Figure 15.

The evidence on which self-assessment ratings were based by post-secondary included:

- number and level of students participating
- number of completers, persistence rate
- amount increased enrollments
- outside evaluator reports
- teacher feedback
- student/faculty enthusiasm

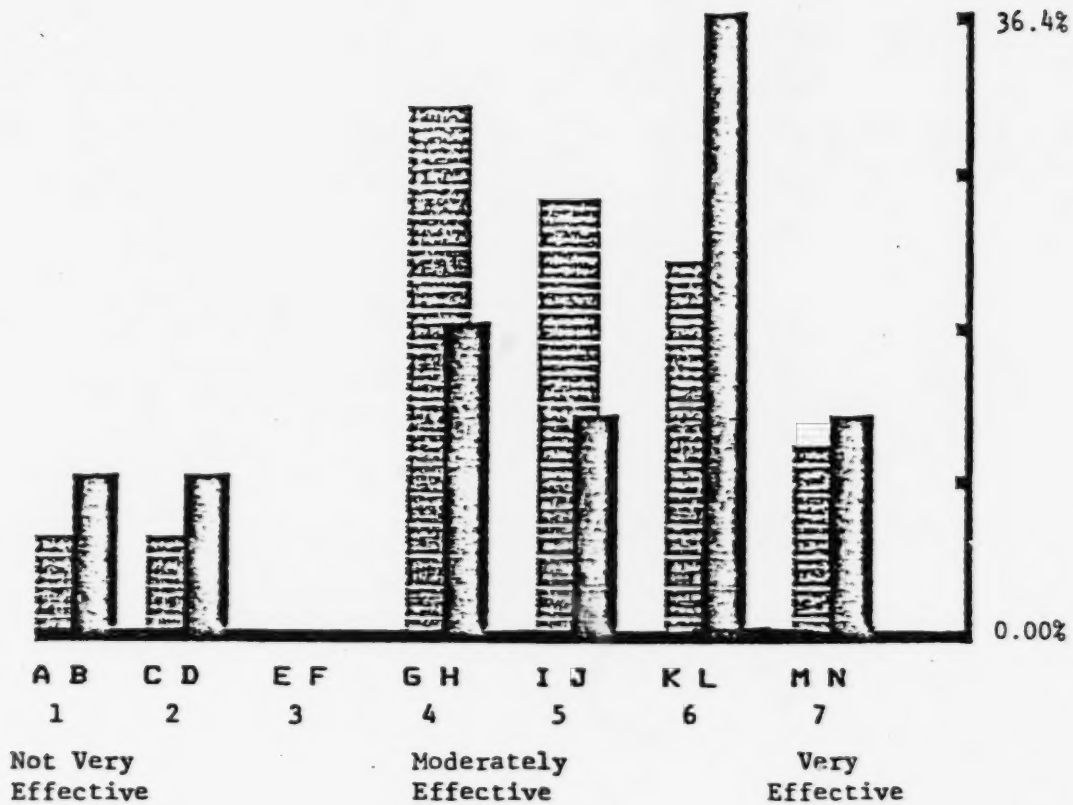
The basis for secondary self-assessment ratings included:

- teacher/student feedback/enthusiasm
- completion rates of requirements
- college feedback
- extent of program expansion
- existing continuity
- college admissions/counselors feedback

As indicated in Figure 15, the majority of the programs were rated as moderately to very effective (89.4% postsecondary; 81.8% secondary). In comparison 10.6% of postsecondary respondents and 18.2% of secondary respondents did not find their programs effective, based on available evidence.

Figure 15

Summary of Self-Assessment Ratings



KEY

A	Postsecondary	5.30
B	Secondary	9.10
C	Postsecondary	5.30
D	Secondary	9.10
E	Postsecondary	0.00
F	Secondary	0.00
G	Postsecondary	31.6
H	Secondary	18.2
I	Postsecondary	26.3
J	Secondary	13.6
K	Postsecondary	21.0
L	Secondary	36.4
M	Postsecondary	10.5
N	Secondary	13.6

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I. Experiential-Based Recommendations

To benefit from the experiences of respondents, recommendations for changes in their agreements were sought. The responses to recommended changes at planning and renewal stages are summed in Figure 16.

Figure 16

Recommendations Based on Experiences of Agreements

Recommended changes at planning stage:

<u>Postsecondary Coordinators</u>		<u>Secondary Coordinators</u>
50.0%	None	30.1%
19.3%	No response	26.4%
11.1%	Too soon to tell	7.5%
-	Provide realistic student benefits	5.7%
2.8%	Funds for local support	-
2.8%	Immediate funding	-
-	Pretesting	5.7%
-	Standardization of time, place, dates	1.9%
-	Increase course offerings	1.9%
-	Involve college in curricular meetings	1.9%
2.8%	Increase amount of credit offered	-
2.8%	Convince faculty of equivalent	-
-	Overcome turfmanship	3.8%
-	PR becomes secondary school responsibility	7.5%
2.8%	More rigid timetables/deadlines application, registration	-
2.8%	Greater coordination among offices dealing with the public	-
2.8%	Better admissions data	-
-	Dedicated, qualified teachers	3.8%
-	Earlier recruitment (in junior year)	3.8%

(continued...)

Figure 16 (continued)

Recommended changes prior to renewal:

<u>Postsecondary Coordinators</u>		<u>Secondary Coordinators</u>
47.2%	None	22.6%
22.2%	No response	39.6%
5.5%	Too soon to tell	7.5%
2.8%	Standardized testing for credit	1.9%
2.8%	Curriculum update	1.9%
2.8%	Means to expand	3.8%
5.5%	Meetings with involved parties to evaluate	-
2.8%	Seek input from other programs	-
-	Improve PR	7.5%
-	Reassess costs for faculty use	1.9%
-	Standardize schedule	1.9%
-	Develop policy for fee payment	1.9%
2.8%	Immediate funding	-
2.8%	Screening students	-
2.8%	Communication with accrediting agency	-
-	Overcome turfmanship	1.9%
-	Encourage students to visit campus	1.9%
-	More involvement of teachers	1.9%
-	Improve communication	3.8%
N=36		N=53

As illustrated by the recommendations, several would make no changes in planning procedures. Isolated recommendations appear to result from a particular experience, instance or individual, and should not be generalized. Similar results are found for recommendations at renewal of agreements. A large percentage indicated that no major changes would be recommended prior to renewal (47.2% postsecondary; 22.6% secondary). In addition, 39.6% secondary and 22.2% postsecondary offered no response. Of those recommendations given "too soon to tell," "standardizing testing for credit," "updating of curriculum," and "means to expand the agreement" were identified by both postsecondary and secondary respondents but all at <10% frequency. However, they may serve as indicators of the types of changes that might be anticipated.

J. Characteristics of Successful Articulated Agreements

A goal of this study has been to profile factors which contribute to successful articulation agreements. Awareness of those characteristics should help staff benefit from the experience of others as agreements are expanded, negotiated, or renewed. Administrators and coordinators at both levels were asked to list five essential characteristics of a successful agreement.

As shown in Figure 17, the most important characteristics include coordination, communication, and commitment, followed by clarity of intent and flexibility. The factor of equal benefit for involved institutions is considered important by postsecondary administrators. Support and communication at upper level administration is recognized as important at both levels as is respect, contact, communication and cooperation among faculty members.

Generally, critical characteristics are related to people and human interrelationships that take place as part of an ongoing educational process. Characteristics not related to people (such as facilities) or aspects that can be manipulated or changed by discussion or consensus are viewed as less crucial.

Figure 17

Essential Characteristics of Successful Articulated Agreements*

Postsecondary		Characteristics	Secondary	
Adminis- trators	Coordi- nators		Adminis- trators	Coordi- nators
30.4%	33.3%	Coordination, communication, commitment between agencies	29.4%	39.6%
13.0%	22.2%	Clarity of intent	-	24.5%
8.7%	11.1%	Flexibility	17.6%	3.8%
27.1%	8.3%	Equally beneficial for both institutions	-	5.6%
4.3%	2.8%	Careful selection of students	5.9%	1.9%
8.7%	13.9%	Trust and confidence in other institution	17.6%	5.6%
13.0%	11.1%	Support and communication of top level administration at both levels	17.6%	5.6%
17.4%	8.3%	Faculty to faculty respect/communication/cooperation	29.4%	7.5%
	2.8%	Goal/program compatibility/understanding	17.6%	24.5%
4.3%	5.6%	Curriculum review/updating/integrity	11.8%	11.3%
4.3%	-	Designated coordinator/liaison	5.9%	1.9%
-	-	Willing participants	5.9%	1.9%
8.7%	5.6%	Opportunity for faculty involvement in program development	5.9%	-
4.3%	2.8%	Simplicity	5.9%	-
4.3%	-	Need	5.9%	-
8.7%	-	Adequate funding and support staff	5.9%	1.9%
4.3%	-	Positive attitude to agreement	-	1.9%
4.3%	2.8%	Local support	-	-
-	-	Advisory Council	5.9%	-
-	-	Innovation/creativity	-	-
4.3%	2.8%	Follow-up documentation (mechanism for evaluation)	5.9%	1.9%
4.3%	-	Student benefits	11.8%	-
4.3%	2.8%	Smooth process for students/specific criteria for student transfer	5.9%	-
4.3%	-	Advertising	-	-
4.3%	-	Long-range plan and articulation guidelines	-	-
-	-	Visitations	5.9%	-
-	-	Eliminate "turf"	17.6%	-
-	-	Creative, innovative	5.9%	1.9%
-	2.8%	Annual program/periodic review to renew/expand	-	13.2%
-	2.8%	Cost effective	-	-
-	-	Visitations (scheduled)	-	3.8%
-	-	Pretesting	-	3.8%
-	-	Specific responsibilities of parties	-	7.5%
-	-	Same grading system	-	1.9%
-	-	Student feedback to instructors	-	1.9%
N=23	N=36		N=17	N=53

* Due to multiple responses percentages do not total 100%.

Part IV - Discussion of Outcomes & Implications

Defining Articulation

Requests for information and data did not at any time provide a definition of articulation. The intent was to determine how articulation was perceived by those participating in linkages. As a result, the data strongly indicate that "formal articulation" is interpreted as advanced credit or advanced placement by both secondary and postsecondary levels. Other types of linkages are perceived as something less than formal.

Both levels however considered informal agreements as important to the cooperative structure among institutions. Non-credit or continuing education articulated programs were described as "all-win situations." A relationship grows from cooperatively providing continuing education courses which in turn fosters a climate of working together, a residual impact that often results in linkage procedures dealing with advanced credit.

Non-credit articulation was further noted as having economic and programmatic advantages to both institutions as well as opening avenues to business and industry. It creates a broader base from which institutions can negotiate with business/industry in determining specific needs and to subsequently establish courses or programs to meet the needs of local employers.

Other informal articulation examples included serving on the other's advisory committee(s) and faculty-to-faculty agreements. In most instances the latter are being incorporated into a more formal structure, particularly within specific programs.

Thus formal articulation is most often interpreted as advanced credit or placement agreements in comparison to informal articulation efforts dealing with non-credit offerings and/or individual person-to-person cooperative efforts.

Rationale for Articulation

The driving force underlying articulated agreements is primarily to provide alternatives to students. Secondary institutions and two-year colleges also find articulation to be a positive public relations activity, especially when a community college and BOCES are adjacent with local taxpayers supporting both institutions. Attempts to reduce duplication and create less complicated educational procedures are viewed as judicious use of monies by taxpayers.

In some instances agreements are motivated by lack of faculty, facilities or programs. These links tend to result in a happy marriage when "lacks" and "haves" match between a secondary and postsecondary agency. Such agreements tend to eventually result in more efficient career programming options for students.

Because of a history of roadblocks to articulation by some postsecondary institutions, many at the secondary level sense the primary motivation for current burgeoning interest in articulated agreements is based more on the desire for enrollments and less on student benefits. Two-Year colleges on the other hand do not unanimously view articulation as an efficient enrollment tool or as a primary strategy for recruitment. The time needed for setting up, and in many cases implementing the agreement, outweighs the actual number of students who choose an articulated alternative. Many do point out that the positive public relations that result from articulation has the potential to impact college or program choices at a particular college because of the improved community image. Too it provides a strategy by which a greater number of students can be accepted into a program since students in an articulation alternative have the opportunity to enroll in more advanced courses leaving space for others in introductory courses.

This is in contrast to the perspective of secondary representatives who

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also indicate few institutional benefits except public image. Another benefit from the secondary perspective include increased aspiration levels for students to continue education when a recognition of worth of the secondary career programs is acknowledged within a college program.

Articulation Procedures

Each formal agreement is developed by involved institutions. The procedures vary depending on structure at both levels. Generally, a specific coordinator or designated administrator at each level serves as contact. The position of coordinator or director facilitates the process, but is not viewed as an absolute necessity as long as an administrator is identified as contact. An articulation director/coordinator facilitates exchange of information and understandings. The same process occurs, however, when an administrator is responsible for articulation as part of his/her job description.

Subsequent to administrative contacts, faculty interaction between programs under consideration determine the compatibility of content -- the crux of advanced credit/placement. Once faculty consensus is reached as to compatibility and amount of appropriate credit, the approval process becomes administrative: agreement drawn, agreed to and signed.

The challenge exam approach to advanced credit or course waivers is not viewed as true articulation by most institutions. Categorizing challenge exams with articulation is viewed as lip-service since the procedure is usually open to anyone with no prerequisites.

In granting advanced credit, postsecondary institutions traditionally include a standard for successful completion of college courses within a specified time period before the advanced credit is actually awarded. For example, a student may need to complete 12 college credits before advanced credit of six

is awarded. This technique assures the college that the articulated student is functioning at college level, helps justification in later transfer processes, and may contribute to a "better break" for students. Some administrators sense a need to be conservative since guarantees of advanced credit transferring to four-year colleges often are absent.

While secondary institutions in larger cities support articulation, so many other problems are faced on a day-to-day basis that articulation often becomes a lesser priority. The crisis management often demanded by a large city school system tends to leave articulation to the discretion of individual administrators of high schools or vo-tech centers.

There is some evidence of a few agreements between individual high schools and two-year colleges, as well as between proprietary schools and BOCES. In both instances these agreements are limited in scope.

The Written Agreement

There was unanimous agreement at both levels that written agreements be simple. One page -- at most, two. The written form should outline prerequisites or requirements, outcomes that will occur once the prerequisites are met, and appropriate signatures in order to validate the agreement.

Policies regarding review of written agreements vary. In some instances a time period is set for review and renewal. In others the agreement is considered valid as long as individuals who sign the agreement remain in their respective positions. Operationally, whenever faculty and administrators interact, updating and review is achieved informally, or specific time is set aside for formal assessment activity.

A generic sample form follows on the next page.

SAMPLE ARTICULATION FORM

COLLEGE----- B.O.C.E.S.
ARTICULATION AGREEMENT

Program Title

Based upon mutual concern for providing programs in _____, which will build upon past experiences of students and eliminate unnecessary duplication of instruction, the _____ faculties of _____ BOCES and _____ College subscribe to the following memorandum of understanding.

Following discussion between the faculties at the two institutions, it was concluded that there is substantial agreement between competencies developed at _____ College in certain of its courses and the competencies developed in the BOCES _____ programs.

Consequently, it was agreed, subject to the following conditions, that the College Dean will forward to the Records Office his recommendation that _____ elective credits be granted in either the certificate or the Degree Program to each BOCES graduate of _____.

1. To be eligible for elective credit, a student must have a B or better average in his or her respective BOCES program.
2. This transfer of credit can only be used to replace _____ and _____ elective courses. The transfer of credit may not be used to replace required courses. This transfer of credit proposal might be appropriately described as "credit" for experience.

The College, through its procedure for advanced placement credit, reserves the right to make the final determination concerning the advanced placement of all students. This procedure requires an interview with the College faculty member designated below.

Chairperson/Faculty Member
College

Director/Program Supervisor
BOCES

President/Dean/Designee
College

Superintendent/Designee
BOCES

Effectiveness of Agreements

Educationally, the measurement of effectiveness is generally viewed as the extent to which students who choose the articulated alternative successfully complete their selected programs. Across the state the numbers of students who participate in any one articulated alternative varies widely. Individual students choosing this alternative do so for a variety of reasons. Thus, factors of success from a student perspective do not easily contribute to quantitative descriptions of success or non-success. This in turn adds to the difficulty of accurately measuring effectiveness of any one agreement.

Usually a follow-up procedure is in place; mechanisms by which staff members at the secondary level attain feedback regarding student progress. This type of feedback becomes increasingly effective in relation to openness of communication. In a two-way process, information is shared and actions can take place at either level to compensate for whatever weaknesses may be found in either student competence or agreement structure.

Problems and Concerns

Some secondary institutions have historically been frustrated with the lag time that sometimes occurs between initial contact with a two-year college and eventual follow-up specific to planning and/or implementation. As one example, a BOCES administrator shared letters written by a college administrator, one dated 1974, the second 1984. Although written by different individuals, the content was almost identical -- follow-up to a recent "orientation meeting" as a beginning to an ongoing "cooperative relationship." This type of frustration is heightened when follow-up data indicate that 25% of BOCES graduates continue their education at two-year colleges, but with few existing provisions to encourage attendance at a potential partner institution.

On the other hand, two-year colleges are particularly concerned about

compatible course content when advanced credit is being considered. The colleges find difficulty in matching areas especially in certain technologies. They often perceive a more job entry philosophy undergirding secondary courses lacking in extent of theory demanded at the postsecondary level. These differences may be attributable to purpose and mission of institutions. Secondary levels, however, claim that student feedback indicate that much material addressed in initial or introductory postsecondary courses is basically repetitious. Thus advanced credit agreements are viewed as a positive technique to eliminate the duplication for those students already possessing command of the content.

Most secondary institutions appear willing to adjust courses or curricula as warranted, and maintain the capability to recommend students who have demonstrated potential for success. However these same secondary institutions do not wish to be placed in a position of guaranteeing future success of those students they do recommend. There is some feeling that secondary staff are expected to guarantee that students recommended for advanced credit will unequivocally succeed. Recommendations can only be made on past history, and demonstrated level of competence and skills.

Some problems were noted regarding implementation of articulated agreements within normal college procedures; for example, computerized registration may well present problems to students who may be following an articulated path and will not be able to complete registration as other incoming students. Computers may not be appropriately programmed for exceptions, thus the process may result in students not attaining the benefits of articulation due to the limitations imposed by standardized registration procedures. Thus an alternative registration process, often by hand, may be necessary.

Success Factors

Successful agreements serve to increase student alternatives and provide institutional benefits when certain components are present, as subsequently discussed.

Primarily, faculty at both levels are a critical link in any articulated agreement. In most cases, matching of content or compatibility between courses prior to a formal linkage for advanced credit rests with the faculty members at each level of the program area. In many instances this compatibility is discussed during an exchange of visitations by faculty to the partner's campus which in turn facilitates opportunities for greater understanding of what differences/similarities may be found to exist. In a few instances, the matching of curriculum is addressed through mails and administrative channels. (This minority opinion that compatibility of content can be achieved as well through the mail, thereby not using faculty time, was based on the perspective that the success of agreements rests with students to perform competently.) The latter process is not usually viewed as conducive to success as the former since communication between faculty in matching content will ultimately serve as an evaluative technique, revision/renewal strategy, and as a conduit for other agreements. In those instances where agreements are more or less processed and coordinated at the administrative level, most administrators recommend that faculty need to be involved in some role.

The most important factors identified as helping to insure agreement success are trust and interaction. Trust and interaction are facilitated if, in the planning stages, program faculty/staff have become known to each other, even though a period of time is needed for trust to evolve. Trust cannot be legislated nor can it be expected to automatically come with the first agreement. In those instances where articulation has been ongoing for several years, frequency of

agreements and their perceived success have increased in proportion to faculty and administrators knowledge and trust of one another.

Agreements work when there is mutual self-interest and when each involved institution recognizes and experiences a benefit.

Administrative commitment at each institution, often beyond mere support, tends to result in expansion and continuation over the years. Even though the driving force behind an articulated agreement may be a service to students, there is recognition of institutional benefits.

It is also recognized that some programs are not conducive to articulation and thus should not be attempted. A common sense rule has come from those with extensive experience in articulation: If problems arise in the early stages of planning or matching program content, it is far better to delay the attempt at articulation until conditions are more favorable. Sometimes an alternate strategy such as challenge exams may serve an immediate need while maintaining communication and a positive working relationship.

Cost is generally viewed as a neutral factor in most articulated agreements. The major expenditure is time. In the initial stages time is usually input from an administrator (or where present, a coordinator). There may be occasional expenses such as lunch or get-together activities to facilitate discussion, but these social costs are not viewed as prohibitive.

Too, there is recognition that time needs to be spent during planning stages in order that the agreement is as efficient and appropriate to needs as possible. Once in place, monitoring of agreements tends to assume an informal posture and results from ongoing interaction of involved faculty thus cost diminishes.

There are occasions when despite extensive planning and support, an agreement does not result in anticipated outcomes. An example is an agreement originated to combine college and BOCES instruction in the twelfth year, thereby reducing

the four-year educational process to three years. The agreement was terminated at the end of the third year of operation. The agreement was strongly supported by administrators at both levels but lacked faculty involvement and support elements. There is conflicting data as to the major factors which contributed to program discontinuance. One identified was student immaturity coupled with excessive program demands on those participating in the program. Another, the screening process was less effective than anticipated. A third, in order to attend both institutions transportation demands became too burdensome on students and institutions.

There was some feeling from the secondary level that the agreement was not successful because of a traditional perspective that students should follow a definitive path and not be allowed to circumvent courses. Both levels agreed that the screening process was not as effective as it should have been and students choosing articulation alternatives were not provided the extent of support and guidance necessary. Enculturation to collegiate life was difficult. The secondary level believed help and support was part of the agreement while the postsecondary believed it to be student immaturity that prevented them from taking advantage of available opportunities for service and support.

The administrative view suggested that the program was aborted because of apparent inability of faculty to mesh professional dedication with the need for a smooth articulation process. Additional negative factors identified included geographical distance between cooperating institutions (morning and afternoon classes), travel conditions, small pool of secondary students from which to draw, and scheduling at high schools to meet prerequisites.

Positive outcomes from the pilot included a format for an articulated program, an opportunity to develop a meshed curriculum, and the cooperative efforts put forth by both faculties needed to even begin the program.

The model was adapted and implemented in another setting. At the second setting the immaturity factor of students again emerged as an insurmountable problem. The average age of the student body, currently over 30, did not compare favorably to the 16-17 age range of students choosing the articulated alternative. Parental interest, high at the start, waned as responsibilities increased, for example providing transportation. Also, secondary guidance counselors in the region were not supportive of the concept since they believed students were being asked to do too much in too short a time. Therefore, the college which attempted to adapt the model for a nursing program is also in the process of discountinuing the agreement. The decision to abort the adoption effort was reached by mutual consensus of secondary and postsecondary faculty.

Based on these two cases, articulation designed to shorten the period within which students develop and mature may not be a workable model, at least programs that require maturity such as nursing. Theoretically this type of agreement appeared viable but in implementation students were not able to cope as effectively as anticipated. It should be noted that many students who were unsuccessful in the articulated effort have returned via the traditional route--once time allowed for maturity and growth.

Part V - Highlights, Conclusions & Recommendations

This study served to identify 73 distinct formal articulated agreements which exist between secondary and postsecondary institutions, and were identified by responses received from 45 postsecondary and 37 secondary institutions. The motivation for these agreements is largely student-centered, to provide more efficient and effective program alternatives. Many provide for elimination of duplication in instruction or for lacks in facilities, faculties or courses. Many also build communication and cooperative linkages that promise benefits beyond the articulated program. Thus, institutions have entered formal articulation agreements motivated by rationales ranging from expansion of mission to practical sharing of facilities/faculty.

Articulation generally is viewed as having two distinct categories:

1) Formal articulation which is interpreted as signed agreements providing for advanced credit/placement which require integration and interrelationship among faculty and staff to successfully implement, and 2) Informal articulation which includes cooperative offering of non-credit courses, training services for local industries and business, sharing of faculty and facilities, and ad hoc person-to-person cooperation.

Operationally, staff members openly admit differences in philosophy between the two levels, and differences in opinions and perceptions of what can and cannot be done. These differences should not be viewed as obstacles but more as issues to be discussed. The importance of articulation has been expressed by the field as "any progress is better than no progress because of the critical nature of articulation to our educational resources in New York State."

Major cost factors were identified as staff time, particularly during

the initial planning and implementation stages. Despite the indirect time cost neither level viewed it as a major barrier to articulation. More post-secondary educators than secondary administrators did note that some direct costs became a factor when considering articulation.

Several factors emerged as important to the success of any agreement. Their existence facilitated operation and success of agreements, and include the following:

- a) Trust and ongoing cooperative interaction must evolve if agreements are to be successfully implemented.
- b) Mutual self-interest and benefits to involved institutions must be present and acknowledged.
- c) Discussions and exchanges between both levels of faculty during the matching of course content and follow-up.
- d) All programs cannot be articulated. When problems arise in the early stages of planning and/or matching content, an alternate strategy or delay until conditions become more favorable is generally recommended.
- e) Support for the agreement by faculty and administrators of both involved levels is necessary.
- f) Additional commitments of time, travel or money from students or their families work against agreement success.
- g) Intent of potential agreements must be clearly stated and understood by all involved. Goals must be compatible.
- h) The integrity of the curriculum must be maintained for all partners.

Some major barriers to articulation were identified such as: a sense of delay or time lag between initial contact and productive discussion; melding articulation processes with standard operational procedures; lack of support or interest by a potential partner's faculty, staff or administrators; exaggerated concerns for content compatibility; or concerns for the screening or recommendation process, differing philosophies, and/or content duplication. Most agree that open communication and information exchange

results in no one factor becoming an unsolvable block, especially when mutual benefits are recognized.

As previously noted, the major rationale for articulation is student centered and improvement of career programs. Articulation is often discussed as a recruitment strategy. Data strongly suggest that if an articulation agreement is entered with the primary motivation being to increase enrollment numbers, the partners will be disappointed since actual increase of numbers for any one articulated program is minimal, especially when compared to effort and input required to successfully initiate and implement a linkage.

Evaluation of agreements usually falls to administrators or involved faculty who assume an informal monitoring role. Such information contributes to reconsideration, updating or revision of agreements. A composite of self-rated effectiveness, estimated costs and major concerns provided by the data suggest a profile of agreements and perceived effectiveness (Figure 18). This profile serves to outline the characteristics of the main types of agreements, and potential factors that may need addressing.

There are essentially seven steps involved in the development of an articulated agreement. These steps include:

1. Estimate the potential benefits from articulation through consideration of local needs and potential feasibility of linkages.
2. Initiate contact, discussion and consultation between potential partners.
3. Decide to proceed (or disband) active quest for an articulation agreement.

Figure 18

Summary of Profile of Agreements

<u>Type of Agreement</u>	<u>Consensus of Effectiveness</u>	<u>Cost</u>	<u>Major Consideration</u>
1a) Advanced placement/ advanced credit	moderately effective (range: not very to very effective)	staff time	number of students who will choose advanced placement alternative
b) Reduction of Instruc- tional repetition	moderately effective	staff time	numbers of students
c) Course waivers	moderately effective	staff time	numbers of students
2) Cooperative adult/ continuing/non-credit education	very effective	coordinator salary, staff time	ongoing operational demands
3) Short-term vocational training	moderately effective	staff time, direct costs attained from outside sources (i.e., JTPA, contract)	extent of planning and preparation
4) Ease transition to college (early admit, college courses at high school, etc.)	moderately effective	staff time; instructor salary (may involve charge to students)	extent of planning and preparation
5) Facilitate college entry to special needs groups (i.e., minority)	moderately effective (range: somewhat effective--very effective)	staff time and commitment	numbers of students that choose to be involved
6) Facilities sharing	very effective	rental costs	congruence between need and available facilities
7) Reduce 2 (BOCES) + 2 (postsecondary) by 1 semester	not effective	bridge course expenses, counselor/faculty/staff time, student expenditures	student maturity level parental and faculty/ counselor support

4. Undertake serious discussions to develop mutually agreeable terms for the written agreement form. These agreements are usually simple and consist of identification of target groups, program area, eligibility requirements, procedural outline, outcomes and benefits, identification of agreement partners.
5. Sign, publicize and market the program.
6. Assess the results and revise the agreement.
7. Consider other ways in which cooperation could be mutually beneficial.

The following observations stem from the results of the study and serve as recommendations to facilitate articulation statewide:

- Forums should be provided to highlight issues and alternate solutions/mechanisms, and to facilitate interaction and problem-solving.
- Decision-makers and policy-makers for both secondary and postsecondary levels need to support articulation in a manner that serves to promote and aid institution-to-institution linkages.
- Several factors are impinging on articulation which need to be recognized and reviewed as part of linkage procedures. The New York State Plan for the Administration of Occupational Education under the Carl D. Perkins Vocational Act of 1984, the Regents Statewide Plan for Development of Postsecondary Education in New York State (1984), and the curriculum efforts for secondary technical programs affirm the priority for articulation. Decrease in numbers of students and decline in available resources are among the economic and social factors that help justify the need for articulation.
- The concept of articulation should be considered as a regional structure that encourages links not only among educational agencies, but also with industry and business institutions.

In summary, there are differences between secondary and postsecondary missions, philosophy and expectations of instructional procedures. The differences are not insurmountable. The success of the majority of agreements indicate that the time and effort are worth the investment. Beneficiaries are primarily students, but individual institutions, faculty and staff also benefit. It becomes a learning situation, an inservice activity, a challenge,

a public relations tool, a link to employers, a service to the community. With careful planning, realistic expectations and dedicated individuals, articulation can become a normal activity with benefits that become more lasting and carry more impact than the agreement itself. Interestingly several discussions with two-year colleges were also institutions at which agreements with four-year institutions are operable. Several concerns expressed at the secondary level regarding aspects such as acceptance of program, faculty exchange and/or philosophy were expressed by the two-year college in terms of four-year institutions. Thus, differences or issues when articulation is undertaken appear to be more of a phenomenon related to sequencing of instruction and where the institutions is positioned in that sequence rather than a function of the secondary/postsecondary relationship.

SELECTED REFERENCES

- Austin, M. Carter. Three-Tier Vocational Education Program. A Report of Results and Approach, 1981. (ED211676)
- Bushnell, David. Closing the Gap and Eliminating the Overlap: Two Case Studies in Articulation. American Vocational Journal, April 1978, p. 2.
- Bushnell, D. D. Cooperation: A Better Way. School Shop, 1971, Vol. 38(8).
- Computer Literacy Data Processing Occupations: Competencies for Articulation, 1983. (ED234151)
- Dallas, Susan, Ed. Improving Curriculum by Working with High Schools. CSCC Bulletin, 1982, Issue 3. (ED219117)
- Dillenbeck, Kathleen J. Articulation with Secondary Schools--Vocational/Technical Education, 1980. (ED187358)
- Knight, Mary M. Meeting the High Technology Challenge through Articulation: A Discussion of Inhibitors and Enhancers of Vocational Curriculum Articulation, 1983. (ED231420)
- Lawton, R. E. and Magruder, D. Cooperative Agreements Study Report, 1984. (ED244692)
- Moore, George. Curriculum Articulation with Secondary Institutions, 1984. (ED241108)
- Palmer, J. C. Sources and Information Revitalizing Articulation and Transfer. New Directions for Community Colleges: Improving Articulation and Transfer Relationships (F. C. Kintzer, Editor), September 1982.
- Parsons, Michael H. Cooperation in Vocational Education Programs: Articulation Is for Real, 1980. (ED188696)
- Poort, Stephen M. and Williamson, Thomas. A Vocational Articulation Model for Iowa--Secondary through Postsecondary. Final Report, 1984. (ED246965)
- Smith, Jack E. Articulation and the Chief Instructional Officer. New Directions for Community Colleges: Improving Articulation and Transfer Relationships (F. C. Kintzer, Editor), September 1982.
- The New York State Plan for the Administration of Occupational Education Under the Carl D. Perkins Vocational Act of 1984. Albany, NY: State Education Department, 1985.
- The Regents Statewide Plan for the Development of Postsecondary Education in New York State; Volume I, Regents Proposals for Action and Regents Recommendations. Albany, NY: State Education Department, October 1984.

The Regents Statewide Plan for the Development of Postsecondary Education in New York State; Volume II, Critical Issues in Postsecondary Education in New York State. Albany, NY: State Education Department, October 1984.

The Regents Statewide Plan for the Development of Postsecondary Education in New York State; Volume III, Summaries of Sector Master Plans with Regents Actions. Albany, NY: State Education Department, October 1984.

True Articulation Has Finally Arrived! by S. D. Whitener in N.C.L.A. Lettergram, July 1985.

Wichowski, Chester. Factors Affecting the Coordination of Programs and Resources Between Community Colleges and Area Vocational Technical Schools. The Community/Junior College Research Quarterly, April/June 1980, Vol. 4(3).

Wilcox, Lynne Moore and Pautler, Albert J., Jr. Articulation in Occupational Education: Considerations for the Future. Journal of Studies in Technical Careers, Spring 1983, 5(2), pp. 177-184.

APPENDIX A

ADMINISTRATOR FORM

SECONDARY-POSTSECONDARY ARTICULATION AGREEMENT SURVEY
VEA 53-85-301-0370Two-Year College Development Center
State University of New York at Albany

November 1984

Directions: As part of a research project under contract with the Bureau of Grants Administration, State Education Department, we are seeking to identify existing articulation agreements in occupational education between secondary and postsecondary institutions. For this research effort, our interest is with formal operational agreements. Would you help us by: 1) completing this Administrator Form (buff), 2) distribute copies of the Coordinator Form (white) to each staff member who is coordinating an articulation effort, using a separate form for each existing agreement, (Please duplicate as many Coordinator Forms as needed for each of your agreements), and 3) return all completed forms. Thank you.

Name: _____ Title: _____

Institution: _____ Address: _____

Phone: () _____

1. Does your center/school have one or more operational articulated agreements with a two-year college? (If you answer "yes" and/or "one is in planning stage," please complete Alternate Questionnaire as well as Administrator and Coordinator Forms for your institution.)

- ☐ Yes (Please complete Administrator and Coordinator Forms.)
☐ No (Please fill in name, agency, and return this questionnaire.)
☐ Did at one time, but no longer active (Please go to Alternate Questionnaire.)
☐ One is in planning stage (Please go to Alternate Questionnaire.)

- 2a. Would you be willing to share a copy of your formal agreement(s) if requested?

☐ Yes ☐ No ☐ Other _____

- b. What is the title (such as Coordinator, Assistant Director, etc.) of the staff member who was primarily responsible for planning the agreement at your institution? _____

For continuing coordination? _____

- c. Are there mechanisms in place for continued assessment and revision of these agreement(s)?

☐ Yes ☐ No ☐ Not really

If yes, please describe briefly: _____

- d. How often do managers/coordinators at the cooperating institutions normally communicate with each other about the articulated activity?

- ☐ once a semester
☐ twice a semester
☐ three times a semester
☐ monthly
☐ several times a month
☐ other, please specify: _____

3a. Would indirect costs of planning and establishing an articulation agreement (i.e., administrative, faculty time) be a consideration prior to embarking on such an effort?

☐ Yes ☐ No ☐ In some cases

If yes or in some cases, please explain: _____

b. Would additional direct costs associated with maintaining an articulated agreement/program be a prior consideration?

☐ Yes ☐ No ☐ Maybe

If yes or maybe, please explain: _____

4a. Does your institution have articulation agreements with a four-year college(s)?

☐ Yes ☐ No ☐ In process

b. If yes or in process, please briefly indicate number and program areas: _____

5. Based upon your experience and perspective as an administrator, what are the essential characteristics of elements necessary for a successful articulation agreement between secondary and postsecondary institutions?

6. The next phase of this project will consist of interviews with staff members at selected sites. If selected, would your center/school be willing to discuss articulation further with project staff in an on-site visitation?

☐ Yes ☐ No ☐ Maybe, please ask

* * * * *

If you are not the appropriate contact person at your institution for future contacts about your formal articulation agreement(s), please identify:

 (Name and Title)

 (Program Area)

 (Phone)

* * * * *

Please return all completed forms as soon as possible but no later than December 20 to:

Dr. LaVerna M. Fadale
 Project Director
 Two-Year College Development Center
 State University of New York at Albany
 135 Western Avenue, Draper 306
 Albany, New York 12222

Thank you for your cooperation!

BEST COPY AVAILABLE

COORDINATOR OF ARTICULATION AGREEMENT FORM

SECONDARY-POSTSECONDARY ARTICULATION AGREEMENT SURVEY

(VEA 53-85-301-0370)

Two-Year College Development Center
State University of New York at Albany

November 1984

DIRECTIONS: As part of a research project under contract with the Bureau of Grants Administration, State Education Department, we are seeking to identify existing articulation agreements in occupational education between secondary and postsecondary institutions. For this research effort, our interest is with formal operational agreements. Would you help us by completing this questionnaire as appropriate to each existing agreement you are currently coordinating? Use a separate form for each existing agreement. Duplicate as many copies as necessary. We have asked your Director to return all completed forms as soon as convenient but no later than December 20, 1984. Thank you.

Name: _____ Title: _____
Institution: _____ Address: _____
Phone: () _____

1. Please complete a) through k) for each formal articulation agreement:

Title of Agreement	a) Other Agency & Contact Person in Articulated Agreement	b) Brief Goals/ Objectives of Agreement	c) Program or Activity & Target Group (if applicable) Covered by Agreement (Please be specific, e.g., secretarial studies, JTPA eligible, etc.)	d) If Appropriate, Length & Av. Number of Students Enrolled in Program Affected by Agreement	e) Period of Time Agreement Has Been in Force	f) Descriptors of Agreement (Check all that apply)
					☐ 1st year ☐ 2nd year ☐ 3rd-4th year ☐ 5th yr or longer	☐ curricular ☐ faculty sharing ☐ equipment/facilities sharing ☐ joint planning ☐ joint grant-seeking ☐ advanced placement ☐ communication/exchange ☐ other, please specify: _____ _____ _____

g) Barriers or Constraints Experienced in Setting Up & Planning Agreement (Example-transportation arrangements to accommodate location outside home area)	h) Problems or Concerns Currently Experienced During Implementation (Example-lack of funds in current budget to carry out terms of agreement)	i) Benefits Realized by Students in Articulated Programs (Example-less time needed for fulfilling course requirements)	j) Benefits Realized by Institution as a Result of Agreement (Example-new programs with little or no outlay for equipment)	k) Estimate of Actual Dollar Savings Compared to Achieving Same Benefits Working Alone

2. The cost of the articulated agreements:

- a) What indirect costs for planning and establishing the agreement have been incurred? Please estimate cost, and indicate the basis of your estimate, i.e., 3 days planning time x 3 administrators x \$100 per day.

<u>Item</u>	<u>Estimated Cost and Basis of Estimate</u>
Administrative time:	_____

Faculty time:	_____

Support staff time:	_____

Other: _____	_____

- b) Because of the agreement, are there additional direct costs associated with maintaining the program that are ongoing budget expenses? ☐ Yes ☐ No ☐ Don't know

If yes, please estimate and identify reason for added cost:

<u>Estimated Additional Direct Cost</u>	<u>Reason/Item (specify)</u>
_____	_____
_____	_____
_____	_____
_____	_____

3. Based on your current knowledge and perception, please rate the effectiveness of your articulated agreement.

Not Very Effective				Moderately Effective				Very Effective
1	2	3	4	5	6	7		

On what kinds of evidence do you base your rating?

- 4a. If you had the benefit of your experience and were beginning to consider articulation in this area, what changes would you seek compared to what actually resulted?

- b. What will you recommend as changes before renewal of this agreement?

5. Based upon your experience, what are the essential characteristics or elements necessary for a successful articulation agreement between secondary and postsecondary institutions?

- _____
- _____
- _____
- _____
- _____

- 6a. By what mechanisms do you as coordinator continuously assess and plan revision of the agreement? Please describe briefly: _____

- b. How often do you as manager/coordinator normally communicate with your counterpart at the cooperating institution about the articulated activity?

_____ once a semester
_____ twice a semester
_____ three times a semester
_____ monthly
_____ several times a month
_____ other, please specify: _____

- c. Is a formal written agreement in existence? _____ Yes _____ No _____ In progress

Are you willing to share a copy of your formal agreement with the project if requested?

_____ Yes _____ No _____ Other: _____

- 7a. The next phase of this project will consist of interviews with staff members at selected sites. If selected, would you be willing to discuss articulation further with project staff in an on-site visitation?

_____ Yes _____ No _____ Maybe, please ask

- b. If you are not the appropriate contact person at your institution for future contact about your formal articulation agreement, please identify:

(Name, Title and Phone Number)

Please return as soon as possible but no later than
December 20 to:

Dr. LaVerna M. Fadale
Project Director
Two-Year College Development Center
State University of New York at Albany
135 Western Avenue, Draper 306
Albany, New York 12222

Thank you for your cooperation!

ALTERNATE QUESTIONNAIRE: SECONDARY-POSTSECONDARY INSTITUTIONS
ARTICULATION AGREEMENT SURVEY
(VEA) 53-85-301-0370

Two-Year College Development Center
State University of New York at Albany

November 1984

Directions: If a formal articulation agreement is in initial planning stages, or has previously existed, please respond to the following items as appropriate. (Duplicate as necessary.)

Name: _____ Title: _____
Institution: _____ Address: _____
Phone: () _____

1. What is the other agency involved in the (past or future [underline one]) agreement?

2. Please identify the involved program area(s) and target population(s).

3. Briefly describe the (past or future [underline one]) agreement (or, if available, attached copy of agreement):

4. What barriers/problems were encountered in:
planning - _____

implementation - _____

5. Evaluate the progress in planning or the merits of previous outcomes in terms of original intent: _____

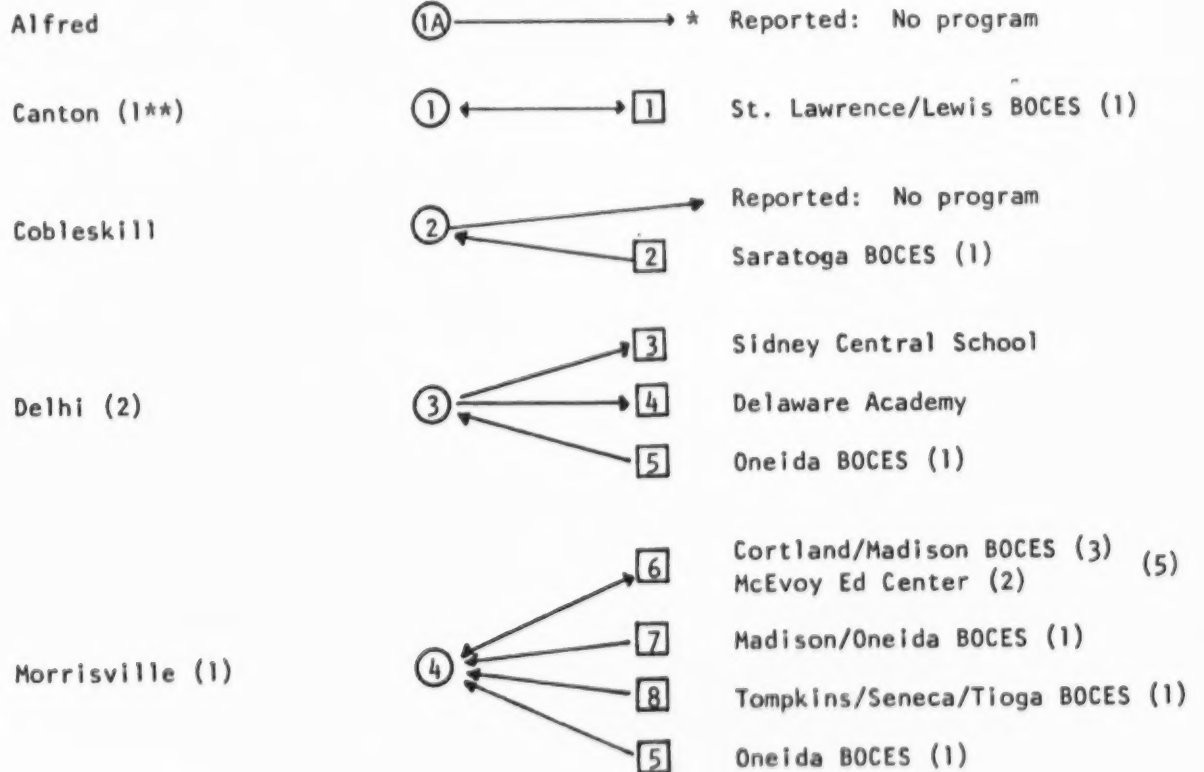
APPENDIX B

ARTICULATION: Schematic of Reported Agreements

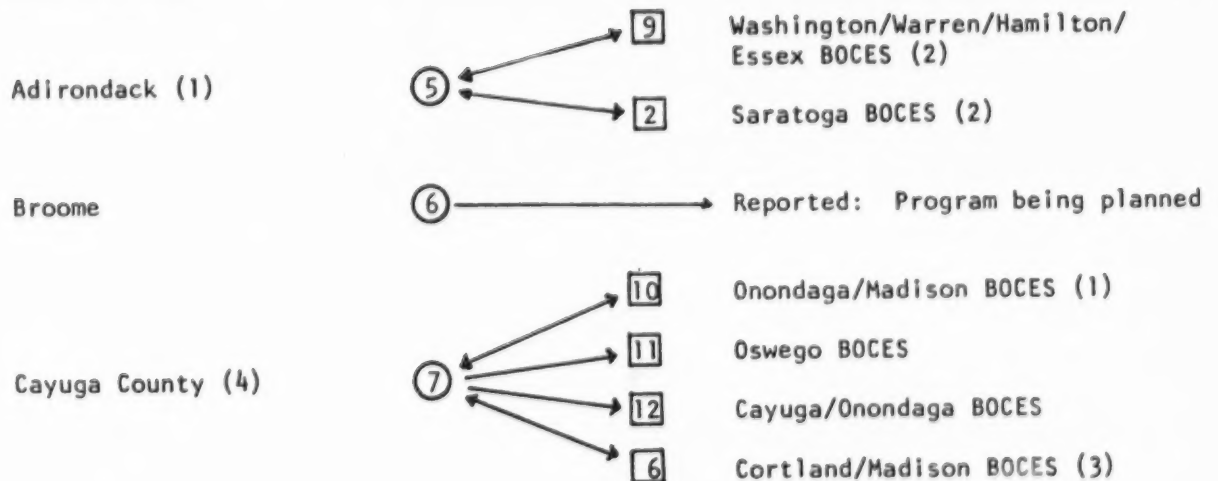
POSTSECONDARY

SECONDARY

Agricultural & Technical Colleges:



Community Colleges:



*Direction of arrow indicates reporting agency.

**Number of programs reported.

POSTSECONDARY

SECONDARY

Community Colleges (continued):

Columbia-Greene

⑨ → Reported: No program

Community-College of the
Finger Lakes (3)

⑩ → ⑬ Orleans/Niagara BOCES
⑩ → ⑭ Wayne/Finger Lakes BOCES (2)

Corning

⑪ → Reported: No program
⑪ → ⑮ Schuyler/Chemung/Tioga BOCES (1)

Dutchess (3)

⑫ → ⑯ Dutchess BOCES
⑫ → ⑰ Putnam/Westchester BOCES (1)

Erie North (2)

⑬ → ⑱ Erie #1 BOCES
⑬ → ⑲ Buffalo Voc-Tech Center

Erie City (3)

⑬ → ⑳ Buffalo City School District (2)

Erie South

⑬ → Reported: No program

Fulton-Montgomery

⑮ → ㉑ Hamilton/Fulton/Montgomery BOCES (1)
⑮ → ㉒ Saratoga BOCES (1)

Genesee (8)

⑮ → ㉔ RIT City Center (BOCES)
⑮ → ⑲ Buffalo Voc-Tech Center
⑮ → ⑬ Orleans/Niagara BOCES
⑮ → ㉒ Genesee/Wyoming BOCES (7)
⑮ → ㉓ Livingston/Steuben/Wyoming (1)
(C.G. May Oc Center)

Herkimer County

⑰ → Reported: No program

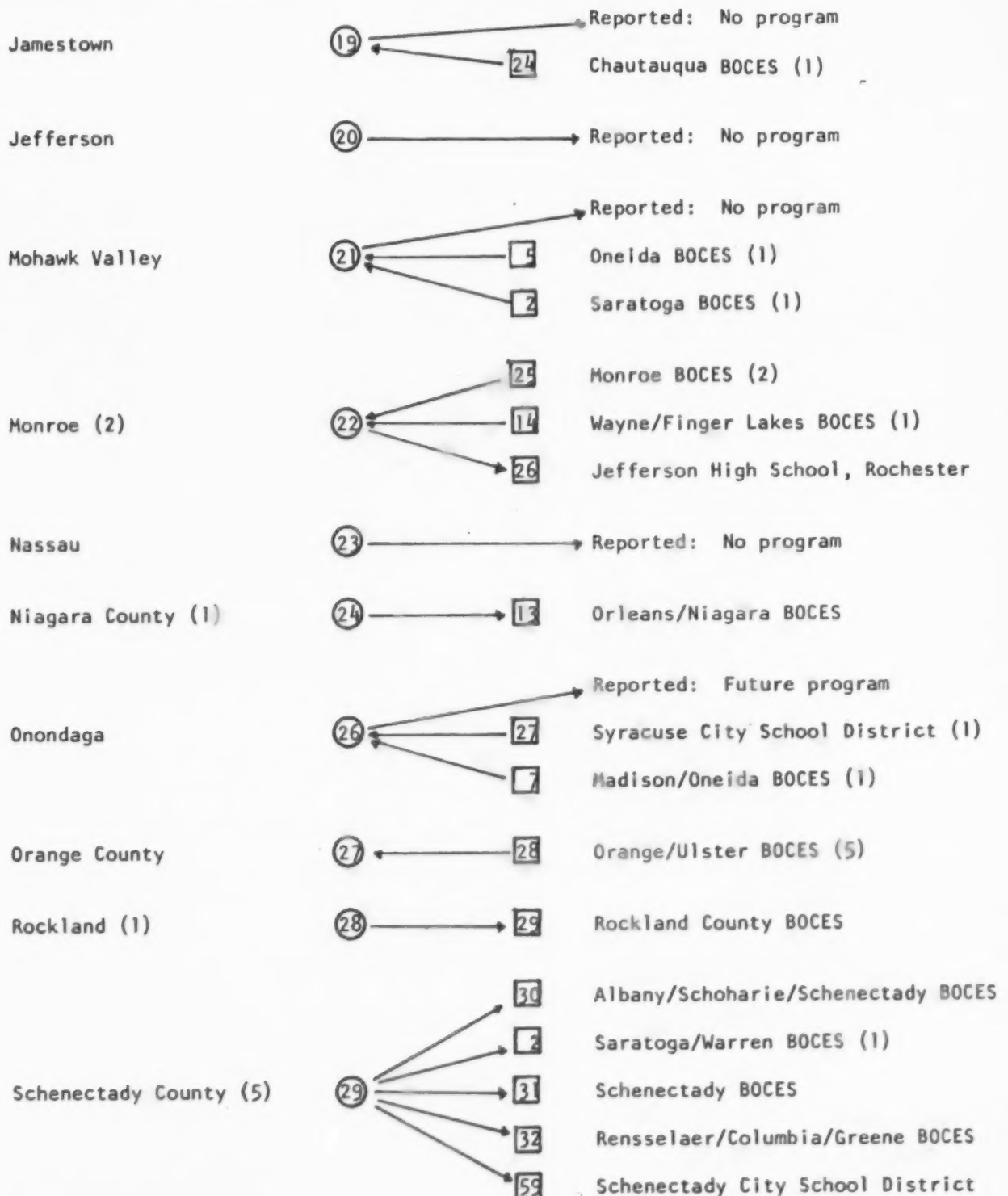
Hudson Valley

⑱ → ㉒ Saratoga BOCES (1)

POSTSECONDARY

SECONDARY

Community Colleges (continued):



POSTSECONDARY

SECONDARY

Community Colleges (continued):

Suffolk County	30	→	Reported: No program
Sullivan County	31	→	Reported: No program
Tompkins-Cortland (2)	32	→	8 Tompkins/Seneca/Tioga BOCES (1)
		→	6 Cortland/Madison BOCES (3)
Ulster County (2)	33	→	33 Ulster BOCES (1)
		→	47 All Ulster County High Schools
Westchester (1)	34	→	34 Yonkers Public Schools (1)
		→	17 Putnam/N. Westchester BOCES (1)
		→	48 South Westchester BOCES

City University of New York:

Borough of Manhattan	35A	→	Reported: No program
Bronx (3)	35	→	35 School District #10
		→	36 DeWitt Clinton High School
		→	37 Satellite Academy
Kingsborough (1)	35B	→	58 Various N.Y.C. High Schools
Fiorello H. LaGuardia (4)	36A	→	57 Flushing High School
		→	58 Various N.Y.C. High Schools
New York City Tech (2)	36B	→	59 Fort Hamilton High School
		→	60 Mt. Sinai High School
Queensborough	37	→	Reported: No program

POSTSECONDARY

SECONDARY

Private:

Academy of Aeronautics

38

38

BOCES III, Dix Hills (1)

Cazenovia College

39

Reported: No program

7

Madison/Oneida BOCES (1)

Elizabeth Seton College (1)

40

39

Sacred Heart, Yonkers (1)

40

Academy of Resurrection, Rye (1)

41

Roosevelt High School, Yonkers (1)

42

St. Michael's, New York City (1)

43

Maria Regina, W. Hartsdale (1)

44

St. Gabriel High School,
New Rochelle (1)

49

Westchester #2 BOCES (Valhalla)

Hilbert College (1)

41

13

Orleans/Niagara BOCES

Junior College of Albany

42

Reported: No program

Maria College

43

Reported: No program

Mater Dei

45

Reported: No program

Paul Smith's College

46

Reported: No program

Trocaire College

47

18

Erie #1 BOCES (1)

Villa Maria College (2)

48

45

Buffalo Academy of Performing Arts

19

Buffalo Voc-Tech Center

POSTSECONDARY

SECONDARY

Reported: No program	←	50	Binghamton City School District
Reported: No program	←	51	School District of the City of Niagara Falls
Reported: No program	←	52	Delaware/Chenango BOCES
Reported: No program	←	53	Otsego/Northern Catskill BOCES
Reported: No program	←	54	BOCES #1-Suffolk County
Reported: No program	←	59	Sullivan County BOCES
Reported: No program	←	56	Jefferson/Lewis BOCES

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XXXXXXXXXXXXXXXXXXXX
ERIC CLEARINGHOUSE
FOR JUNIOR COLLEGES

JUN 8 1986
.....